

CLAIMS

1. A method for reducing haze in fire resistant polycarbonate compositions, comprising:

blending flame retardant salt with a first polycarbonate to produce a concentrate, wherein the flame retardant salt comprises is selected from the group consisting of potassium perfluoromethylbutane sulphonate, potassium perfluoromethane sulphonate, potassium perfluoroethane sulphonate, potassium perfluoropropane, potassium perfluorohexane sulphonate, potassium perfluoroheptane sulphonate, potassium perfluorooctane sulphonate, potassium diphenylsulfone sulphonate, and mixtures comprising at least one of the foregoing flame retardant salts;

pelletizing the concentrate; and,

blending the pelletized concentrate with a second polycarbonate and a cyclic siloxane to form a fire resistant polycarbonate composition.

2. The method of Claim 1, wherein the flame retardant salt is present in the concentrate in an amount from about 0.10 to about 5.0 weight percent based upon the total weight of the concentrate.

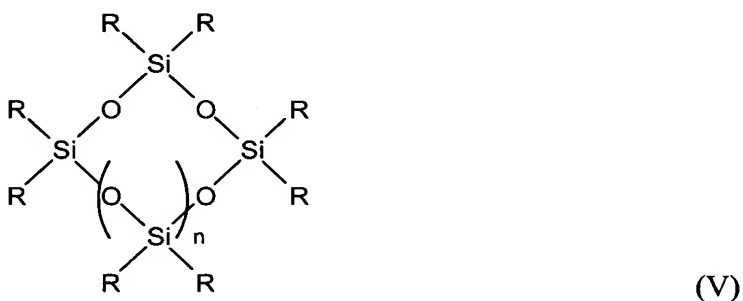
3. The method of Claim 1, wherein the first polycarbonate is the same as the second polycarbonate.

4. The method of Claim 1, wherein the flame retardant salt is present in the fire resistant polycarbonate composition in amounts of about 0.01 to about 1.0 weight percent based upon the total weight of the polycarbonate.

5. The method of Claim 1, further comprising blending with the concentrate and second polycarbonate a filler, reinforcing agent, heat stabilizer, antioxidant, light stabilizer, plasticizer, antistatic agent, mold releasing agent, additional resin, blowing agent or combinations comprising at least one of the foregoing.

6. The method of Claim 1, wherein the cyclic siloxane is present in the flame resistant polycarbonate composition in an amount from about 0.01 to about 0.5 parts per hundred parts by weight of the total resin.

7. The method of Claim 1, wherein the cyclic siloxane has the general formula (V)



wherein n is 0 –7 and each R is independently an alkyl group having from 1 to about 36 carbons, an alkoxy group having from 1 to about 36 carbons, a fluorinated or perfluorinated alkyl or alkoxy group having from 1 to about 36 carbons, an arylalkoxy group having from 7 to about 36 carbons, an aryl group having from 6 to about 14 carbons, an aryloxy group having from 6 to about 14 carbons, a fluorinated or perfluorinated aryl group having from 6 to about 14 carbons, or an alkylaryl group having from 7 to about 36 carbons.

8. The method of Claim 1, wherein the cyclic siloxane is octaphenylcyclotetrasiloxane, hexamethylcyclotrisiloxane, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, trimethyltriphenylcyclotrisiloxane, or tetramethyltetraphenylcyclotetrasiloxane.

9. The method of Claim 1, wherein the cyclic siloxane comprises octaphenylcyclotetrasiloxane.

10. A method for reducing haze in fire resistant polycarbonate compositions, comprising:

blending flame retardant salt with a first polycarbonate to produce a concentrate, wherein the flame retardant salt comprises a C₁-C₆ alkylammonium salt;

pelletizing the concentrate; and,

blending the pelletized concentrate with a second polycarbonate and a cyclic siloxane to form a fire resistant polycarbonate composition.

11. The method of Claim 10, wherein the flame retardant salt is selected from the group consisting of tetrabutyl ammonium perfluoromethylbutane sulphonate, tetrabutyl ammonium perfluoromethane sulphonate, tetrabutyl ammonium perfluoroethane sulphonate, tetrabutyl ammonium perfluoropropane sulphonate, tetrabutyl ammonium perfluorohexane sulphonate, tetrabutyl ammonium perfluoroheptane sulphonate, tetrabutyl ammonium perfluorooctane sulphonate, tetrabutyl ammonium perfluorobutane, tetrabutyl ammonium diphenylsulfone sulphonate, and mixtures comprising at least one of the foregoing flame retardant salts.

12. The method of Claim 10, wherein the flame retardant salt is selected from the group consisting of tetraethyl ammonium perfluoromethylbutane sulphonate, tetraethyl ammonium perfluoromethane sulphonate, tetraethyl ammonium perfluoroethane sulphonate, tetraethyl ammonium perfluoropropane sulphonate, tetraethyl ammonium perfluorohexane sulphonate, tetraethyl ammonium perfluoroheptane sulphonate, tetraethyl ammonium perfluorooctane sulphonate, tetraethyl ammonium perfluorobutane, tetraethyl ammonium diphenylsulfone sulphonate, and mixtures comprising at least one of the foregoing flame retardant salts.

13. The method of Claim 10, wherein the flame retardant salt is present in the concentrate in an amount from about 0.10 to about 5.0 weight percent based upon the total weight of the concentrate.

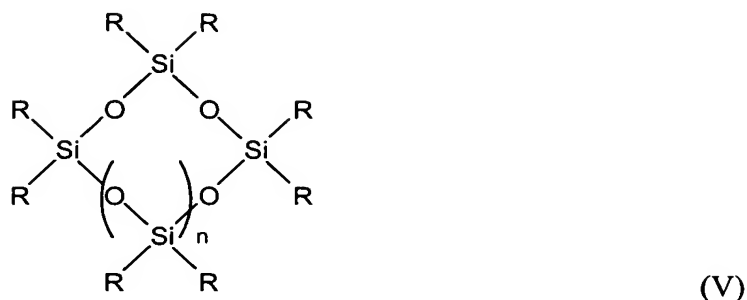
14. The method of Claim 10, wherein the first polycarbonate is the same as the second polycarbonate.

15. The method of Claim 10, wherein the flame retardant salt is present in the fire resistant polycarbonate composition in amounts of about 0.01 to about 1.0 weight percent based upon the total weight of the polycarbonate.

16. The method of Claim 10, further comprising blending with the concentrate and second polycarbonate a filler, reinforcing agent, heat stabilizer, antioxidant, light stabilizer, plasticizer, antistatic agent, mold releasing agent, additional resin, blowing agent or combinations comprising at least one of the foregoing.

17. The method of Claim 10, wherein the cyclic siloxane is present in the flame resistant polycarbonate composition in an amount from about 0.01 to about 0.5 parts per hundred parts by weight of the total resin.

18. The method of Claim 10, wherein the cyclic siloxane has the general formula (V)



wherein n is 0 –7 and each R is independently an alkyl group having from 1 to about 36 carbons, an alkoxy group having from 1 to about 36 carbons, a fluorinated or perfluorinated alkyl or alkoxy group having from 1 to about 36 carbons, an arylalkoxy group having from 7 to about 36 carbons, an aryl group having from 6 to about 14 carbons, an aryloxy group having from 6 to about 14 carbons, a fluorinated or perfluorinated aryl group having from 6 to about 14 carbons, or an alkylaryl group having from 7 to about 36 carbons.

19. The method of Claim 10, wherein the cyclic siloxane is
 octaphenylcyclotetrasiloxane, hexamethylcyclotrisiloxane,
 octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane,
 dodecamethylcyclohexasiloxane, trimethyltriphenylcyclotrisiloxane, or
 tetramethyltetraphenylcyclotetrasiloxane.

20. The method of Claim 10, wherein the cyclic siloxane comprises octaphenylcyclotetrasiloxane.

21. A method for reducing haze in fire resistant polycarbonate compositions, comprising:

blending flame retardant salt with a first polycarbonate to produce a concentrate, wherein the flame retardant salt is selected from the group consisting of sodium perfluoromethylbutane sulphonate, sodium perfluoromethane sulphonate, sodium perfluoroethane sulphonate, sodium perfluoropropane sulphonate, sodium perfluorohexane sulphonate, sodium perfluoroheptane sulphonate, sodium perfluorooctane sulphonate, sodium perfluorobutane sulfonate, sodium diphenylsulfone sulphonate, and mixtures comprising at least one of the foregoing flame retardant salts;

pelletizing the concentrate; and,

blending the pelletized concentrate with a second polycarbonate and a cyclic siloxane to form a fire resistant polycarbonate composition.

22. A method for reducing haze in fire resistant polycarbonate compositions, comprising:

blending flame retardant salt with a first polycarbonate to produce a concentrate,

pelletizing the concentrate; and

blending the pelletized concentrate with a second polycarbonate and a cyclic siloxane to form a fire resistant polycarbonate composition;

wherein a 4.5 mm thick chip formed from the fire resistant polycarbonate has a percent haze of 0.51 to 1.23.